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Page 1: For Annual Planning/Program Review Requests AND Off-Cycle Requests

Q1 Technology Plan Year **2020-2021**

Q2 Title of Request

Oscilloscopes for Physics Labs

Q3 Location of Request

H Building Physics Labs

Q4 Department

Engineering and Physical Science

Q5 Contact Person

Name	**Miriam Simpson**
Email Address	**miriam.simpson@gcccd.edu**

Q6 DescriptionPlease provide a brief description of the technology/software or technology project and its core goal(s).

Oscilloscopes are one of the most versatile and essential pieces of equipment in a physics or engineering laboratory. They provide a visual representation of electrical signals such as voltage as a function of time. This allows students to access a visual experience of everything from electromagnetic phenomenon to biological events like heart activity (the latter being very valuable for our physics 131 reboot in which we are tying physics concepts to life science).

The core goals for a new set of oscilloscopes are to continue to provide active, relevant, authentic, and modern laboratory experiences for our students. These goals can be summarized in two primary categories: 1) Ensuring that students are familiar with equipment that they will almost certainly encounter in their 4-year institutions and eventual careers, and 2) Giving students multiple access points to developing a physical intuition around concepts like electromagnetic fields, neuroscience, and acoustics.

At present, our supply of oscilloscopes are several decades old and only semi-functional. Getting an updated lab set is essentially for maintaining a modern physics lab education.

Page 2: Proposal Justification

Q7 Please explain how the technology or enhancement supports the strategic plan. Include information on how students will be impacted and/or employees or the college or district overall. Consider whether this would this be a district-wide implementation.Which Strategic Plan priority (or priorities) are supported by this request? To access the Strategic Plan, please click here.

Student Validation and Engagement

Q8 How does the request support the above priorities?

The use of oscilloscopes supports Cuyamaca's strategic plan in several ways, but most saliently in the area of student validation and engagement. As mentioned above, laboratory tools like oscilloscopes provide additional access points for students to actively engage with STEM subjects in ways that touch different learning modalities (especially visual-spatial). Furthermore, any educational tools that provide new points of access to material will also support students who are in the process of acceleration. Lastly, maintaining modern and up-to-date laboratory equipment that provide resources for student success and equity is an essential factor in maintaining organizational health.

Q9 Who would this impact? Please select all that apply.

Students

Q10 What is the number of students or employees impacted per semester?

120

Q11 How would this impact the above group(s)?

Students would be able to do labs that would prepare them for later courses and give them real-world skills in circuits.

Q12 Does the technology support a state-wide initiative or is it a legal mandate or in support of a legal mandate?

No

Q13 If yes, please explain how the technology supports a state-wide initiative or is it a legal mandate or in support of a legal mandate?

na

Q14 Please be aware that projects, once approved, are typically scheduled 6 months to a year in advance. Consider the consequences if the technology/software is not implemented, upgraded or renewed.What are the consequences if the technology/software is not implemented/upgraded, or renewed? Examples: Security concerns, loss of FTES, mandates, accreditation, etc.

As stated earlier, our current supply of oscilloscopes is obsolete. Given that most of our physics 190-200-210 students and our physics 130-131 students encounter concepts that can be explored and enhanced through this technology, this amounts to over 200 students per semester who are adversely impacted if the new technology is not updated.

Q15 What is your preferred time for implementation?

Spring 2020

Q16 Tell us how the data you have supports the implementation of the technology. This can be qualitative or quantitative in the form of surveys, observations, SLO or other assessment data, institutional research data or other reports and data.

We can't run 2 of our labs without these, so students going to do poorly in the classes that use oscilloscopes later like circuits.

Q17 How critical is this need in terms of supporting curriculum and services?	**4**
Q18 Please attach any supporting data/documentation using the "Upload" button below.	**Respondent skipped this question**

Page 3: COST ANALYSIS

Q19 Is the request for hardware or software?	**Hardware**
Q20 Is the request for new or an upgrade to existing technology?	**Upgrade (replacing outdated technology)**

Q21 Total initial cost of request: This includes hardware and software maintenance, licence, taxes, fees, shipping, storage, etc. Contact Sherri Braaksma for assistance.

12 oscilloscopes x $1000 + $ 200 shipping + $930 tax = $13,130

Q22 Funding Source:	**General Fund**
Q23 Please attach quote using the "Upload" button below.	**Respondent skipped this question**

Page 4: Grant Funding Source

Q24 Please specify the grant that will fund the technology you are requesting.	**Respondent skipped this question**

Page 5: Evaluation Plan

Q25 Evaluationi. How do you plan to evaluate the technology after implementation?

We will run the labs and see if students that perform these labs have better downstream results in circuits classes.

Page 6: Type of Request

Q26 Is this an Off-Cycle Request (e.g., not part of the annual planning/program review process)?	**No**

Page 7: Off-Cycle Requests Only

Q27 What are the exigent circumstances and/or contributing factors that would qualify this request to be eligible for Off-cycle consideration? Please explain why this request cannot wait until the next annual planning cycle.	**Respondent skipped this question**

Page 8: Ready to Submit

Q28 Are you ready to submit your technology request?	**Yes**